

REHAK, Svatopluk; VRANA, Milan

The nature of reactive hypertension during the course of forced increase in the eye volume. Cesk. ofth. 17 no.4/5:364-368 JI '61.

1. Oční klinika KU v Hradci Kralove, prednosta prof. MUDr. M. Klima
Patofyziologicke oddeleni USOL, Praha, reditel Dr. Sc. J. Malek.

(INTRAOCULAR PRESSURE physiol)

REHAK, Svatopluk; VRANA, Milan

Determination of the outflow capacity of the eye during the course of reactive hypertension. Cesk. ofth. 17 no.4/5:369-374 J1 '61.

1. Očni klinika v Hradci Kralove, prednosta prof. dr. M. Klima, a patofyziologicke odd. USOL Praha, reditel Dr. Sc. J. Malek.

(INTRAOCULAR PRESSURE physiol)

ACC NR: AP6026687

SOURCE CODE: UR/0181/66/008/008/2374/2381

AUTHOR: Kurova, I. A.; Vrana, M.; Vavilov, V. S.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Observation of the motion of electrical domains in *n*-type germanium with a partially compensated upper acceptor level of gold

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2374-2381

TOPIC TAGS: electron capture, electron donor, temperature dependence, electric field

ABSTRACT: The motion and velocity of a strong electrical field (domain) was observed in samples of germanium containing Au and Sb in the range of temperatures between 15 and 35°K. The electrical instability is due to the dependence of electron capture in the upper acceptor level of the gold ($E_c = 0.04$ ev) on the magnitude of the electric field. When the temperature and background increase, the domain accelerates. In the region of thermal generation of electrons in the sample, velocity depends exponentially on temperature and the activation energy is ~ 0.04 ev. In the region in which electrons are generated primarily by the thermal background from the gold acceptor level, the temperature dependence of the velocity is exponential for all values of the background, and the activation energy is ~ 0.016 ev, which is close to the temperature de-

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ACC NR: AP6026687

pendence of the coefficient of electron capture on doubly negative charged gold atoms at these temperatures. At lower temperatures, domain motion depends but slightly on temperature, and agrees with the theoretical equation of B. K. Ridley (*Phys. Let.*, 16, 105, 1965). The voltampere characteristic is linear and there is no instability below 15°K because conductivity in the samples is governed primarily by the ionization of carriers from the shallow donor level, which is filled by electrons as a result of optical recharging. It is shown that inhomogeneities in the sample strongly affect the nature of domain motion. The domain forms in the region of the largest stationary field in the sample and travels toward the field, disappearing at the anode or in the region of the weak field ahead of the anode. The authors thank V. L. Bonch-Bruyevich for discussions and V. V. Ostroborodova and N. I. Danilova for preparing the crystal samples. Orig. art. has: 10 figures.

SUB CODE: 20/

SUBM DATE: 10Jan66/

ORIG REF: 006/

OTH REF: 008

Card 2/2

BURIAN, V.; VYSOKA-BURIANOVA, B.; VRANA, M.; KYSELOVA, M.

A new combined vaccine against Bordetella parapertussis, diphtheria, tetanus and pertussis. Cesk. epidem. 14 no.6:339-345 N '65.

1. Ustav ser a ockovacich latek, klin. epid. odbor, Praha, Lekarska fakulta hygienicka Karlovy University, katedra epidemiologie, Praha a Ustav epidemiologie a mikrobiologie, Praha.

VRANA, Milan, promovany geolog; VREA, Jaroslav, promovany geolog

Influence of atmospheric precipitations on the results of
pumping tests. Geol pruzkum 6 no. 3:85-86 Mr '64.

1. Vodni zdroje, Prague.

PEKAREK, J.; VRANA, M.

Effect of pertussis vaccination on anaphylactic shock in mice and rats. J. hyg. epidem. 7 no.1:28-36 '63.

1. Institute of Sera and Vaccines, Prague.
(PERTUSSIS VACCINE) (ANAPHYLAXIS) (HISTAMINE)

VRANA, Otakar

Geography of hop cultivation in the North-Bohemia region. Sbor zen
68 no.1:36-40 '63.

VRANA, O.

"Geographical research on the character of settlements on the Great Schutt Island"

p. 197 (Geographical Institute, Slovak Academy of Sceinces) Vol. 9, no. 4, 1957

SO: Monthly Index of East European Accession (EEAI) LC, Vol. 7, no. 5, May 1958

VRANA, O.

Frantisek Vitasek's Fyzicky zemepis, dil III. Rozstinove a rivecisstvo
(Physical Geography, Pt. 3, Plants and Animals); a book review.
p. 157. Ceskoslovenske spolecnost zemepisne, SROUZEK, Praha.
Vol. 68, no. 2, 1956.

SOURCE: East European Accessions List, (EEAL), Library of Congress
Vol. 5, no. 12, December 1956.

VRANA, OTAKAR.

Vrana, Otakar Zaklady sdelniho zemepisu. (Vyd. 1.) Praha, Priradovedecke nakladatelstvi,
1950. 60 p. (Basic principles of the geography of population)

SO: Monthly List of East European Accessions, L C, Vol.3 No. 1 Jan '54 Uncl.

VRANA, Stanislav

"Evolution of metamorphic belts" by A. Miyashiro. Reviewed by
Stanislav Vrana. Vestnik ust geolog 37 no.6:487-488 N '62.

VRANA, Vladimir

Patent exclusiveness of industrial articles. Ratsionalizatsiia
13 no.7:1-3 '63.

VRANA, V

"Capitalist patent law and the socialist law on invention"

p. 1 (Ratsionalizatsila) Vol. 7, no. 5, May 1957
Sofia, Bulgaria

SO: Monthly Index of East European Accessions (EEAI) IC, Vol. 7, no. 4,
April 1958

VRANA, V.

Polish-Bulgarian cooperation in the field of invention and rationalization. p. 4. RATSIONALIZATSIIA. (Institut za ratsionalizatsiia) Sofiya Vol. 6, No. 1, Jan. 1956

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 5, No. 11, November 1956

VRANA, V.

Engineer Kovlaov's Method Applied in the Activity of Rationalizers.
Leka Promishlenost (Light Industry), #11:40: Nov 54

VRANA, VI.

A national competition for the rationalization of the economy
of the electric and thermal power. Tekh delo no.437:2 4 Ag
'62.

VRANA, Vl.

Copyright in the field of inventions and rationalization, and its protection. Ratsionalizatsiia no.10:1-4 '62.

VRANA, VI.

Rationalizer radio competition for metal saving concluded.
Ratsionalizatsiia 13 no.6:37 '63.

VRANA, V1.

Conference on the unification of patents, classification,
and documentation, held in Sofia. Ratsionalizatsiia no.12:
34 '62.

VRANA, V1.

For the development of the rationalization movement in farming.
Ratsionalizatsiia 13 no.2:6-9 '63.

VRANA, VI.

Towards a new rise in the field of inventiveness and rationalization.
Ratsionalizatsiia 11 no.12:1-4 '61.

VRANA, Vladimir, sutrudnik

Patent licence contracts. Ratsionalizatsiia 14 no. 1:
1-4 '64.

I. Institut za izobretenia i ratsionalizatsii.

VRANA, Vladimir

Decisions on rationalization proposals, and procedure for submitting objections to them by virtue of paragraph 65 of the Regulation. Ratsionalizatsiia 14 no.6:17-18 '64

1. Institute of Innovations and Rationalization.

23275

Z/039/60/021/012/002/002

E192/E382

9.1914 (1127)

AUTHORS: Černohorský, Dušan and Vrána, Vratislav, Engineers

TITLE: A Shortwave Vertical Antenna Operating with a
Progressive and a Standing Current Wave

PERIODICAL: Slaboproudý obzor, 1960, Vol. 21, No. 12,
pp. 730 - 734

TEXT: A wideband vertical antenna operating at short waves is analysed. The top load of the antenna (Fig. 1) consists of a resistance R and a terminating capacitance C . The current flowing through the capacitance C closes to the receiver through the earth surface and produces some radiation. The power lost in the earth surface and the power radiated can be taken into account by means of two equivalent resistances R_{e1} and R_{e2} , which are connected in series with C . In general, the second component can be neglected, i.e. $R_{e2} = 0$.
The load of the antenna is therefore given by :

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$$Z = R + R_{el} - j \frac{1}{\omega C} \quad (1) .$$

If $C \rightarrow \infty$, it can be assumed that the antenna is terminated with an ohmic resistance and the condition of the appearance of a progressive wave is therefore given by:

$$R + R_{el} = Z_0 \quad (2)$$

where Z_0 is the characteristic impedance of the antenna; this is approximately expressed by:

$$Z_0 = 138 \left(\log \frac{2\ell}{d} - k \right) \quad (3)$$

where ℓ is the length of the antenna,
 d is the diameter of the antenna conductor and
 Card2/7 k is a constant depending on the ratio of the antenna

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length to its height above the Earth l_1 .

However, in general, it is not possible to meet the condition expressed by Eq. (2). It is therefore not possible to get a perfect progressive wave and a standing wave is also produced. In general, the terminating capacitance is of the order of tens of pF so that its reactance in the band of short waves is of the order of hundreds of ohms. The antenna cannot easily be matched and the standing-wave ratio is quite high. However, this situation can be overcome at least at one frequency by connecting a series inductance L to the terminal of the antenna. Now, at the resonant frequency of LC the top terminal of the antenna is effectively grounded and the standing wave is negligible. From the above, it is seen that, in general, a combination of progressive and standing wave is produced in the antenna so that its current can be expressed by:

$$i_z = I_0 \{ (1 + p) \cdot e^{j\alpha(l-z)} - j2p \cdot \sin[\alpha(l-z)] \} \quad (5)$$

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where $\alpha = 2\pi/\lambda$,

z is a variable coordinate measured from the lower terminal of the antenna,

p is the current reflection coefficient for the top terminal of the antenna,

$I_o = I_o' \exp(-j\alpha z)$ is the amplitude of the wave at the end of the antenna and

I_o' is the amplitude of the current at the input of the antenna.

On the basis of the above, it can be shown that the field produced by the standing current wave is given by:

$$E_s = \frac{j 60 I_{os} e^{-j\alpha r} [\cos(\alpha \ell \cos \theta) - \cos \alpha \ell]}{r \sin \theta} \quad (8)$$

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where I_{os} is the amplitude of the current wave which is expressed by:

$$I_{os} = -I_o \cdot j 2p \quad (9) .$$

On the other hand, the field due to the progressive wave is given by:

$$E_p = \frac{-j 60 I_{op} e^{-jar}}{r \cdot \sin \vartheta} \left\{ \cos \vartheta \cdot \sin(\alpha l \cos \vartheta) + \right. \\ \left. + j [e^{j\alpha l} - \cos(\alpha l \cos \vartheta)] \right\} \quad (10) \quad \checkmark$$

where I_{op} is expressed by:

$$I_{op} = I_o (1 + p) \quad (11) .$$

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The total field is given by the sum of the components expressed by Eqs. (8) and (10). On the basis of the above formulae, it was possible to determine the radiation diagrams and input impedances for the antenna with and R, L, C load. From these diagrams it is found that the radiation patterns of the antenna do not differ substantially from those of a similar antenna with a simple standing wave; the only substantial difference is observed in the shape of the side lobes. On the other hand, the presence of a progressive wave in the antenna current results in a "smoothing" effect of the input resistance of the antenna. It is found, in particular, that with a suitable L and $R = R_0$ (where R_0 is the characteristic resistance of the antenna) the impedance characteristic at frequencies between 4 and 14 Mc/s is comparatively uniform. X

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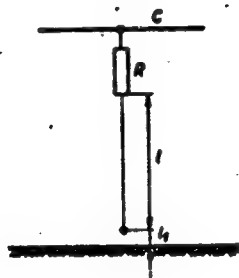
A Shortwave Vertical Antenna

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There are 8 figures and 4 references: 1 Czech and 3 non-Czech.

SUBMITTED: May 5, 1960

Fig. 1:



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CERNOHORSKY, Dusan, inz.; VRANA, Vratislav, inz.

Simplifying the calculations of antenna radiation patterns.
Slaboproudy obzor 21 no.8:454-459 Ag '60. (EEAI 10:1)
(Radio)

VRANA, V.

"Our cooperation with the German Democratic Republic in the field of invention, samples, and trade-marks."

p.3, (Ratsionalizatsiia, Vol. 7, no. 2, Feb. 1957, Sofia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 8, August 1958

VRANA, V.

Significance of patents for our socialist economy.

p. 1 (RATSIONALIZATSIIA) Vol. 7, no. 10, Oct. 1957,
Sofia, Bulgaria

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

VRANA, V.

VRANA, V. Protection of patent rights for suggestions in rationalization, technical improvements, and inventions according to the amendments in the Criminal Code. p.6.

Vol. 6, no. 3, Mar. 1956 RATSIONALIZATSILA Sofiya, Bulgaria

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 10
Oct. 1956

VRANA, V.

New law on rationalization and inventions in the Hungarian People's

Republic. p. 6

RATSIONALIZATSIIA. Vol. 6, No. 4, Apr. 1956

Sofiya, Bulgaria

So. East European Accessions List Vol, 5, No. 9 September, 1956

VRANA, V.

VRANA, V. The official duties of the engineers and technical workers and their rationalization suggestions. p. 5.

Vol. 6, No. 6, June 1956.

RATSIONALIZATSIIA

TECHNOLOGY

Sofia, Bulgaria

So: East European Accession, Vol. 6, No. 2, Feb. 1957

VRANA, V.

VRANA, V. Results from the competition on small dams, for working out a new, more exact type of designs and estimates. p. 11. Vol. 6, no. 7, July 1956.
RATSIONALIZATSIA, Sofia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol 6, No. 4--April 1957

VRANA, V.

VRANA, V. Role and tasks of the Institute for Rationalization in the field of
invention and rationalization. p. 1.

Vol. 6, No. 10, Oct. 1956.

RATSIONALIZATSIIA.

TECHNOLOGY

Sofia, Bulgaria

So: East European Accession, Vol. 6, No. 3, March 1957

VRANA, V.

"Experimenting With Rationalizers' Suggestions", P. 3, (RATSIONALIZATSIIA,
Vol. 3, No. 10/11, Oct./Nov. 1953, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12,
Dec. 1954, Uncl.

VRANA, VI.

Inventors and rationalizers, fighters for technological progress.
Ratsionalizatsiia 11 no.8:5-6 '61.

(Inventions) (Industrial management)

VRANA, VI.

A new industrial method for the preparation of sodium sulfide. Ratsionalizatsiia no.6:21 '62.

VRANA, VI.

Conference on the rationalization activities in the dressing,
mining, and metallurgic enterprises. Ratsionalizatsiia no.6:38-39
'62.

VRANA, Vl.

Let us improve our work in the rationalization competition.
Ratsionalizatsiia no.6:7-9 '62.

VRANA, Vl.

The Bulgarian rationalizer competition for the economy of electric and heat energy. Elektroenergiia 13 no.7:27-28 J1 '62.

VRANA, Vl.

The rationalization activities in the Plant 10. Ratsionalizatsiia
no.7:37-38 '62.

VRANA, VI.

Organizational and technical innovations, and rights of their
authors. Ratsionalizatsiia no.8:7-9 '62.

VRANA, Vl.

Personal material interest in the invention and rationalization activities. Ratsionalizatsiia no.2:5-7 '62.

VRANA, Vladimir

First results of the competition for the economy of metals.
Tekh delo 13 no.429:2 2 Je '62.

VRANA, Vl.

Rationalizer Youth Competition conclude successfully. Ratsionalizatsiia
11 no.9:38-39 '61.

(Industrial management)

VRANA, VI.

Let us make use of the Soviet experiment for the improvement
and extending of the work of public construction bureaus.
Ratsionalizatsiia 13 no.1:16-18 '63.

Z/039/60/021/08/002/032
E140/E563

AUTHORS: Černohorský, Dušan, Engineer, Vrána, Vratislav, Engineer

TITLE: Simplified Calculation of Antenna Patterns¹⁵

PERIODICAL: Slaboproudý obzor, 1960, Vol 21, No 8, pp 454-459

ABSTRACT: A graphical-numerical method is given for the calculation of antenna radiation patterns. The current distribution on the antenna is substituted by a piecewise-constant distribution. It is assumed that the Earth has infinite conductance. The following cases are considered: radiation of a perpendicular conductor over the surface of the Earth; radiation of a horizontal conductor over the surface of the Earth; radiation of a capacitance-loaded antenna. ¹⁶

There are 9 figures, 3 tables and 7 references, 2 of which are Czech, 1 Soviet, 1 German and 3 English.

SUBMITTED: March 26, 1960

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BICHEVOY, Ya.V.; VRANA, V.F.; KARTASHEVA, N.M., red.; TRUKHINA, O.N.,
tekhn. red.

[Succulent forage the year round] Sochnye korma - kruglyi god.
Moskva, Sel'khozizdat, 1962. 109 p. (MIRA 16:3)

1. Sekretar' rayonnogo komiteta Kommunisticheskoy partii
Sovetskogo Soyuzo Novo-Aleksandrovskogo rayona Stavropol'-
skogo kraya (for Bichevoy). 2. Glavnyy zootekhnik kolkhoza
"Rossiya" Novo-Aleksandrovskogo rayona Stavropol'skogo kraya
(for Vrana).

(Feeds)

VRANA, Zdenek, inz.

Examination of the thickness of cover in open mines.
Uhli 4 no.5:164-168 My '62.

1. Dul Sverma, Holesovice u Mostu.

VRANA, Z.

"Present methods of evaluating efficiency and utilization of mining machinery in open-pit lignite mines." p. 78.

UHLI. (Ministerstvo paliv). Praha, Czechoslovakia, Vol. 1, No. 3, Mar. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.
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1957, 3.

A contribution to the problem of cumulative blasts in open pits. n. 1
(Uhl, Vol. 7, no. 1, Jan. 1957, Praha, Czechoslovakia.)

SC: Monthly List of East European Accessions (FEAL) IC. Vol 6, no. 12, Dec. 1957. Uncl.

VRANA, Z.

Determining the depth limit in strip mining from the geologic point of view. p. 35.

UHLI. (Ministerstvo paliv)
Praha, Czechoslovakia
Vol. 1, no. 2, Feb. 1959.

Monthly list of East European Acessions (EEAI), LC, Vol. 8, no. 7
July 1959
Uncl.

VRANA, Z.

TECHNOLOGY

Periodicals: ELEKTROTECHNIK Vol. 14, no. 3, Mar. 1959

VRANA, Z. We are building a machine factory in Korea. p. 86.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 5,
May 1959, Unclass.

VRANA-HEJNALOVA, D.

Effect of vegetative water in potatoes on butanol-acetone fermentation. p. 32.
(Kvasny Prumysl, Vol. 3, No. 2, Feb 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

VRANAK, M.

Duty of the tourist press; Press Day. p. 321

KRASY SLOVENSKA no. 9, Sept, 1955

CZECHOSLOVAKIA

SOURCE: EAST EUROPEAN ACCESSIONS LISTS VOL. 5, no. 7, July 1956

GROCH, J.; technicka spolupraca SABADOSOVA, S.; VRANAYOVA, E.

Hygienic problems of the organization of the daily regimen in school day-hostels. Cesk. hyg. 7 no.9:522-527 0 '62.

1. Ustav hygieny a epidemiologie Lekarskej fakulty UPJS, Kosice.
(SCHOOL HEALTH)

GROCH, Jiraj; za technickej spoluprace VRANAYOVEJ, E.; SARAYOVEJ, S.

Estimation of the time schedule for young school children. Cesk. pediat.
17 no.4:368-372 Ap '62.

1. Ustav hygieny a epidemiologie Lek. fak. University P. J. Safarika
v Kosiciach, prednosta MUDr. R. Pospisil, CSc.

(CENTRAL NERVOUS SYSTEM physiol)
(SCHOOL HEALTH)

VRANCEA, A.

I. CLAUDIAN, Bull Soc Med Bucarest, 1938, 20, 147-153

VRANCEA, S.; POPET, Aurelia; GHISOIU, Carmen

Methodological aspects of the biological standardization of
corticotropin. Stud. cercet. endocr. 15 no.2:133-140 '64.

VRANCEANU, G., acad. prof.

Alexandru Orascu (1817-1894). Studii cerc mat 15 no. 3:429-430
'64.

Sem. Vektor. Tenzor. Analizu.] 1, 12-101 (1933)], P. Rachevsky [ibid., 126-142 (1933)], and H. Schapiro [ibid., 102-125 (1933)]. First, certain of their results are reformulated by a new approach emphasizing either the existence of a set of invariant equations or of invariant first integrals of the differential equations of the paths defining the space. In the subprojective case (the chief interest of Kagan and his school) use is made of the device of projecting the pole to infinity instead of placing it at the origin. Then, spaces $n-m-1$ times projective with an $(m-1)$ dimensional linear space as pole are treated to the extent of finding the form of the fundamental affine connection in the special coordinates with pole at infinity and in finding certain forms of Riemann metric which give rise to them. Finally the necessary and sufficient conditions for a poled $n-m-1$ times projective space and for a general $n-2$ times projective space are written, the former in invariantive form.

J. L. Vanderslice (College Park, Md.)

Vranceanu, G. Sur les espaces partiellement projectifs. Bull. Math. Soc. Roumaine Ser. 48, 43-64 (1947). This is a further study of topics first broached in papers by B. Kagan [Abh. Sem. Vektor- und Tensoranalysis [Trudy

Source: Mathematical Reviews,

Vol. 11 No. 3

u. G. Leçons de Géométrie Différentielle
Congruences. Formes de Pfaff. Groupes con-
variants et équivalents. Espaces à connexion
Riemann. Espaces à connexion
Rucarest. 1947 422 pp.

thoroughly modern and scholarly treatise on geometry presented with considerable originality and with the author's nonhedonistic predilections, primarily for the specialist. The style is rather didactic and discursive. Whenever possible, a naive attitude toward the subject matter, in other words, a preferred to elegant, hammer and tonge clever devices. The reader benefits from this. The methods of both Ricci and Cartan (tensors) are used, with emphasis the connecting links, congruences, Pfaffians. This includes the simpler forms of tensors, Pfaffians, bilinear covariants, and special forms: systems of congruences (ennuplets), calculus. Chapter II. Finite continuous groups. Chapter III. Complete and unbackneyed presentation of Cartan viewpoint including even such topics as the structure tensor of any G_1 and invariants of all primitive groups in two variables. Invariants and equivalence. The Cartan approach Pfaffian systems is developed and applied to problems such as invariant and analytic problems such as invariant equivalence of webs (textile geometry) and differential equations of first and second orders. An aspect of Pfaffian theory which is not widely understood, even less widely understood. Fortunately there are no details (Chapter IV. Affinity connected

Source: Mathematical Reviews, 1/7 Vol 9 No. 7

the notion of affinodis-
tals. Besides the standard
high treatments of topological
relations. Also notable
of the concept of group
ed space. The methods
problem of equivalence
stated discussion of the
Then for good measure
structure equations. Chap-
ort space of one chapter
as familiar discipline with
exclusion and origin of
ues of Euclidean space in
ly connected spaces. In
author takes the Cartan-
most part Veblen's for-
jessive envelopes a transi-
hibited. The more special-
id of 1. 3. Thomas are
v. Some of the develop-
d to the present case. An
tion results. The proposed
ormally connected spaces
spaces and invariants of
ustains
e (College Park, Md.).

Source: Mathematical Reviews, 3/2 Vol 9 No. 9

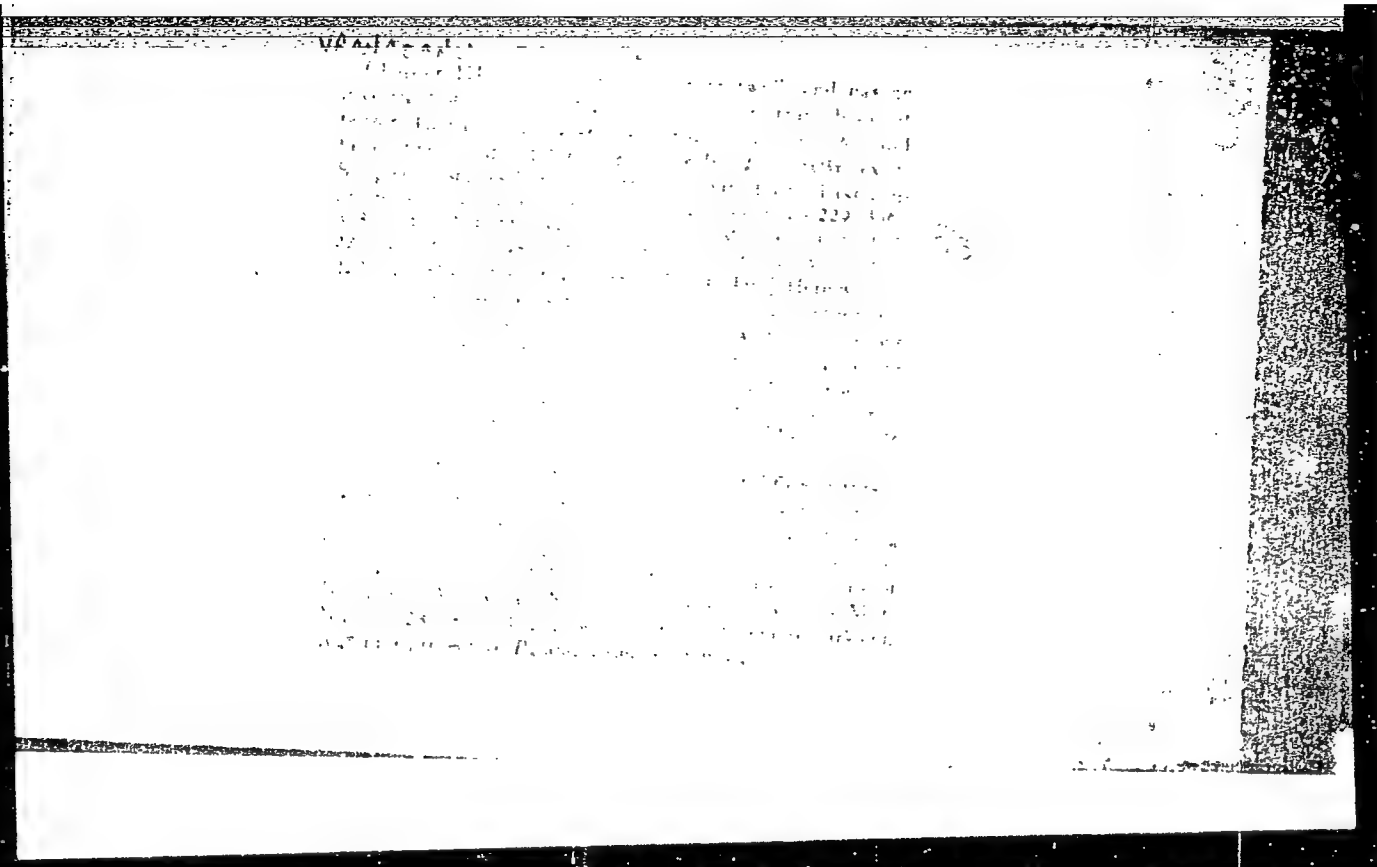
511

280

Vilms, G. Classification des groupes de Lie de rang
2. *Publ. Math. Inst. Math. Acad. Sci. USSR* 1978, 19, 1-11.
Russian and French sum.

... a partial canonical form
... Lie algebra. In
... the reduced form of
... Lie algebras
... New York, N.Y.

11/11/78



which determine a non-holonomic λ in the[illegible]

16-02
/ *Vrânceanu, Gheorghe. Lectii de geometrie diferentiaa. I - F/W
17.1.1. Elemente. Forme ale lui Pfaff. Grupuri con-

Vranceanu, G. Sur la réduction à une forme canonique
des équations des courbes auto-parallèles d'un espace

A_1 . Com. Acad. R. P. Române 2 (1952), 479-484.
(Romanian. Russian and French summaries)

The differential equation of the geodesics of a space
 A_2 of symmetrical affine connection is

$$\frac{d^2y}{dx^2} = a\left(\frac{dy}{dx}\right)^2 + b\left(\frac{dy}{dx}\right) + c\frac{dy}{dx} + d,$$

where a, b, c, d are functions of x and y . A point transfor-
mation can reduce two of these coefficients to zero. The
cases $a=d=0$ and $a=c=0$ are singled out and an appli-
cation is made to the geodesics of a Riemannian surface
 V_2 . D. J. Strusk (Cambridge, Mass.).

I - F/W

VRANCEANU, G.

"The Calculation of time and the dosage of rotary treatment in X-ray therapy. p. 19"
BULETIN STIINTIFIC, Vol. 4, no. 1, Jan./Mar. 1952, Bucuresti, Rumania.

SO: Monthly List of East European Accessions, L.C. Vol. 2, No. 11, Nov. 1953, Uncl/

VRANCEAUNU, G.

Mathematical Reviews
Vol. 14 No. 11
December, 1963
Geometry.

VRANCEANU, G. On spaces with non-Euclidean affine connection with a maximal group of transformations into itself. : Acad. Repub. Pop. Române. Bul. Ști. A. 1, 813-821 (1949). (Romanian. Russian and French summaries)

An affinely connected space which is not euclidean permits at most an n^2 -parameter group of automorphisms. The author exhibits the form to which the connection of spaces with maximal group can be reduced as well as the form of the automorphic group itself.

J. L. Vanderstee.

Vrănceanu, G.

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Vrănceanu, G. Sur une équation arithmétique. Com. 1-F/W
Acad. R. P. Române 3 (1953), 5-8. (Romanian.

M⁵ Russian and French summaries)

Let N^2 have (in decimal notation) as last digits precisely the n digits of N . Then N satisfies the diophantine equation (*) $N^2 - N = A \cdot 10^n$ with some integral A . For every integer n , Pompeiu [Acad. Repub. Pop. Române. Bul. Şti. Sect. Şti. Mat. Fiz. 4 (1952), 1-5; MR 15, 602; see also Dickson, History of the theory of numbers, v.1, pp. 458-459] has shown that there are two solutions N and N' , satisfying $N + N' = 10^n + 1$. The author gives a proof of these statements, generalizes (*) to (**) $N^2 - kN = A \cdot 10^n$ and obtains the result that (**) with $k = 4, 1, 4, 3$ contains only two lattice points (N, A) with positive coordinates less than 10^{n+1}

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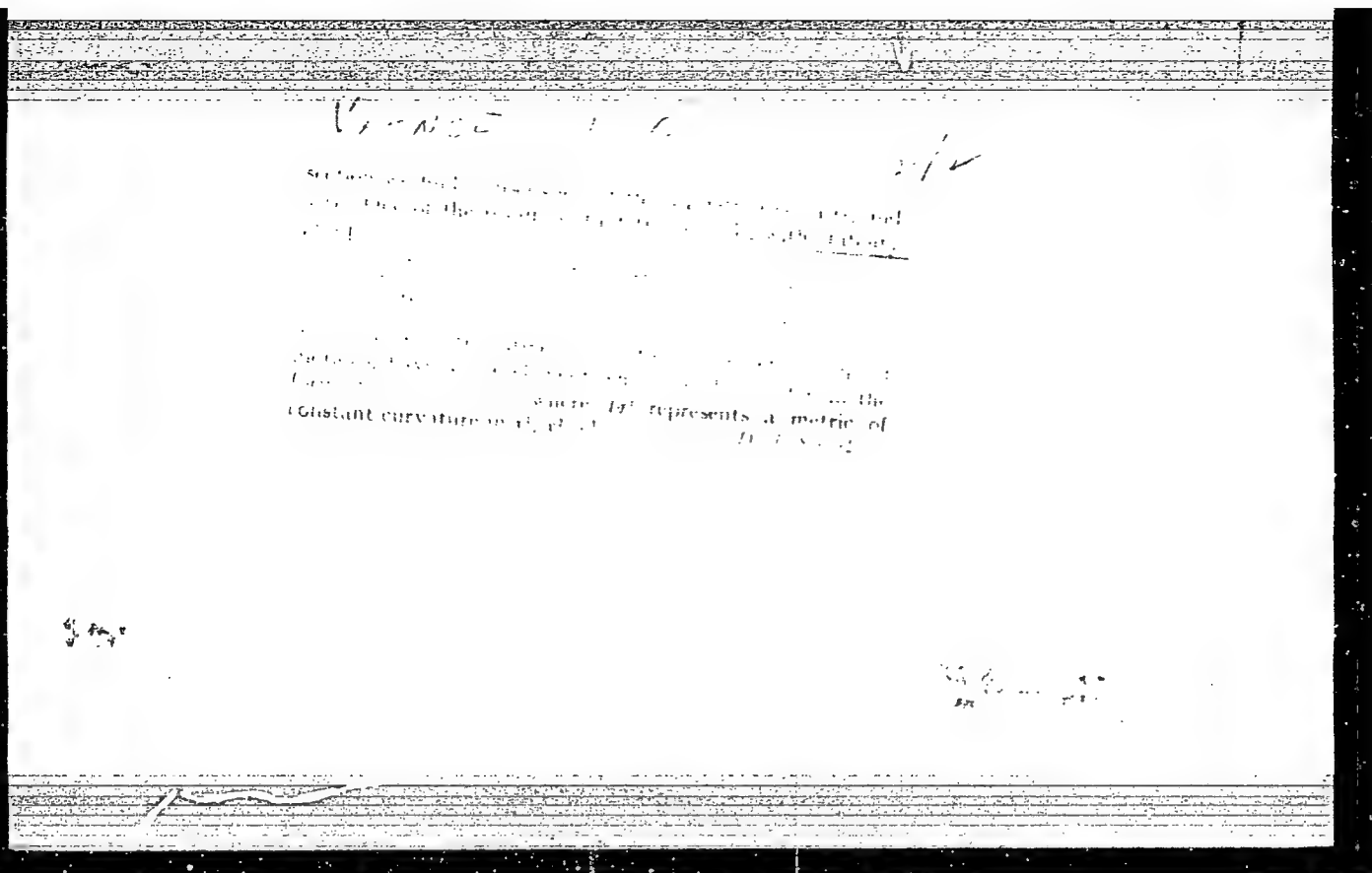
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stabilité un V_n . (1954) Math. Scand. 3 (1953) 24-32
1954

The group of motions and the stability group of a V_n
have at most $4n+11$ and $4n+1$ parameters respec-
tively. Special results were obtained by Furini, Egoroff and
the author (cf. the reviewer's K -calculus, second ed.
to appear, p. 348). It is proved here that the special
symmetrical V_n 's are exactly those that have an eight parameter
group of motions in the case of V_n 's with this property.

J. A. Schouten (Eps)

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Vranceanu, G. Sur les groupes de mouvement d'un espace
 de Riemann à quatre dimensions. Acad. Român. Sci. Ser. Mat. 4: 121-133 (1954). (Re-
 printed in *Revue de l'Enseignement Supérieur*)

In the first section of this paper the Riemannian V_4 with
 a group of identity group is considered and it is shown that
 a group of identity group is a subgroup of the group of
 motions. In the second section it is shown that the
 identity group is a subgroup of the group of motions.
 (Reprinted in *Revue de l'Enseignement Supérieur*)
 Acad. Sci. SSSR, N° 66: 793-796 (1959). (Reprinted in
Tr. Akad. Nauk SSSR) It is also shown that if we pass from a space
 V_4 to a space of constant curvature with group G_4 then the
 space V_4 is a subgroup of the group of motions. (Reprinted in
Tr. Akad. Nauk SSSR) It is also shown that if we pass from a space
 V_4 to a space of constant curvature with group G_4 then the
 space V_4 is a subgroup of the group of motions. (Reprinted in
Tr. Akad. Nauk SSSR)



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On the isometric correspondence of two Riemannian spaces of $n-1$ category. Studii cerc mat 16 no.10:1207-1209 '64.

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"Sur les espaces V_n a groupe simplement transitif." Revue de Mathematiques et de Physique, Vol. 2, 1954

Vrănceanu, Gheorghe. Sur les espaces à connexion affine
partiellement projectifs (Czechoslovak Math. J. 4(79): 1 - F/W
283-286, 1954) (Russian summary)
An affine A_n is said to be partially projective of order $n-p$
if its self-parallel curves given by

$$\frac{dx^i}{dt} = \Gamma_{jk}^i \frac{dx^j}{dt} \frac{dx^k}{dt}$$

can be expressed by $n-p$ linear equations and $p-1$ equations which need not be linear, $p > 1$. If $p = 1$ the A_n is projective euclidean. It is shown that, if the A_n has in every hyperplane the maximum number $n-1$ of self-parallel curves, it is projective euclidean (and conversely), if it has

$$\frac{\partial \Gamma^1_{ab}}{\partial x^1} + \frac{\partial \Gamma^1_{ba}}{\partial x^2} + \frac{\partial \Gamma^1_{aa}}{\partial x^3} + \Gamma^1_{aa}\Gamma^2_{ba} + \Gamma^2_{ba}\Gamma^1_{aa} + \Gamma^1_{aa}\Gamma^2_{aa} = 0$$

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D. J. Struik (Cambridge, Mass.)

Vranceanu, G.

Vranceanu, G. Propriétés différentielles globales des
espaces A_n à groupe maximum G_n . Acad. Repub. Pop.
Romine. Bul. Sti. Ser. Sti. Mat. Fiz. 6, 49-59 (1954)
(Romanian. Russian and French summaries)
The spaces A_n with an invariant Pfaffian and a

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by coefficients

$$\Gamma_{11}^1 = \mu, \quad \Gamma_{11}^2 = \rho x^1, \quad \Gamma_{11}^3 = 0, \quad \Gamma_{11}^4 = (\lambda + \mu\rho)x^2, \quad \Gamma_{11}^5 = 0$$

$$(k, k=2, \dots, n; \mu, \rho, \lambda \text{ constants}).$$

This has been shown in the author's "Lectures on differential geometry," v. II, [Acad. Repub. Pop. Române, 1951, p. 66, AFR 14, 1949]. In the present paper we find expressions for the auto-parallel curves of these A_n for the case without torsion ($\rho=0$); there are three cases depending on the character of the roots of the quadratic equation $r^2+r-\lambda=0$. It is also shown, by a suitable transformation, that A_n can be given constant connection coefficients. The structure of the G_n is analyzed, and it is demonstrated that there exist two symmetrical spaces in the sense of Cartan, given by

$$\Gamma_{11}^1 = \Gamma_{11}^2 = \Gamma_{11}^3 = \Gamma_{11}^4 = 0, \quad \Gamma_{11}^5 = \pm x^1$$

$$(k, k=2, \dots, n; s=1, \dots, n).$$

D. J. Struik (Cambridge, Mass.).

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Franceanu, G. Sur les invariants des espaces 4, à connexion linéaire. Acad. R. P. Roum. Bul. Sti. Ser. I. Sti. Mat. Fiz. 6 (1954) 779-787. (Romanian summary and English summary.)

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Given a space A_1 with connection $\Gamma_{\mu\nu}^\alpha = A_{\mu\nu}^\alpha - C_{\mu\nu}^\alpha$, where $A_{\mu\nu}^\alpha$ and $C_{\mu\nu}^\alpha$ are constants then the $A_{\mu\nu}^\alpha$ constitute a tensor with respect to linear transformations of the x^μ . A tensor symmetric of type $(1, 2)$ is defined by $T_{\mu\nu}^\alpha = T_{\nu\mu}^\alpha$, $T_{\mu\nu}^\alpha = A_{\mu\nu}^\alpha - A_{\nu\mu}^\alpha + C_{\mu\nu}^\alpha - C_{\nu\mu}^\alpha$.

$\frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx = \frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx$

This tensor can be used to study the q_1 dependence of the results of the four-line experiment by the equation

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Factorization of the sphere S_{2p+1} by large circles. p. 1425.
Academia Republicii Populare Romine. COMUNICARILE. Bucuresti.
Vol. 5, no. 10, Oct. 1955.

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 5,
no. 9, Sept. 1955

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... and French summaries.

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where α is the angle between the direction of the magnetic field and the direction of the wave vector. The formula (1) is valid for arbitrary values of the angle α . For $\alpha = 0$ it reduces to the formula obtained in [1].

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About intrinsic invariants of nonholonomic spaces. p. 9.

(ANALELE. SERIA STIINTELOR NATURII. Rumania. Vol. 5, no. 11, 1956)

APPROVED FOR RELEASE: 09/01/2001

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Vranceanu, Gheorghe. Sur le groupe de stabilité d'un espace à connexion affine. Bull. Math. Soc. Sci. Math. Phys. R. P. Roumaine (N.S.) 1(49) (1957), 121-124.

The stability group of an affine space A_n ($\Gamma_{jk}^i = \Gamma_{ij}^k$) is the group of automorphisms which preserves a point. Expressed in normal coordinates, this group is linear homogeneous. If A_n is not euclidean this group cannot be the full group with n^2 parameters; if the A_n is Riemannian, the group is orthogonal. If A_n is not euclidean, and has a transitive group, then the stability group cannot contain the special transformation $\sum x^i \partial_i$.

D. J. Struik (Cambridge, Mass.)

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Spaces with affine connection and locally Euclidean, and the entire Cremonian transformations. In French. p. 111.

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p. 341.

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Vol. 3, no. 3, 1958.

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Uncl.

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p. 29.

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Vol. 7, no. 17, 1958

Monthly list of European Accessions (EEAI) LC, Vol. 8, no. 8, Aug. 1959

Uncl.

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Punctual transformations in two variables, linear in one of the two. p. 19.

ANALELE SERIA STINTELOR NATURII. Bucuresti, Rumania Vol. 7, no. 18, 1958.

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Uncl.

5498:

Vranceanu, Gheorghe, Espaces de Riemann partiellement projectifs à métrique indéfinie. Math. Nachr. 18 (1958), 123-126.

Etant donné un espace de Riemann V_n à métrique indéfinie partiellement projective d'ordre $n-m-1$, la métrique peut être écrite sous la forme

$$ds^2 = 2dx^i dx^{m+i} + 2 \frac{\partial \varphi}{\partial x^i} dx^i dx^{2m+p} + a_{\alpha\beta} dx^\alpha dx^\beta$$

($i \leq m$; $\alpha, \beta > m$; $p \leq n-2m$). Dans le cas d'ordre maximum ($n=2m$) on a la forme canonique

$$ds^2 = 2dx^i dx^{m+i} + \varphi(x^i dx^{m+i})^2 + b_{\alpha\beta} dx^\alpha dx^\beta$$

où φ et $b_{\alpha\beta}$ dépendent seulement des variables x^α . Pour le cas où la métrique est définie positive voir le livre de l'auteur [Lectures on differential geometry, vol. II, Ed. Acad. R. P. Române, 1951; MR 16, 1049; ch. I].

A. Svec (Prague).

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16(1) PHASE I BOOK EXPLOITATION SOV/2660

Vsesoyuznyy matematicheskiy s'yezd. 3rd, Moscow, 1956

Trudy. t. 4: Kratkoye soedyneniye sekcionnykh dokladov. Doklady inostrannykh uchennykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow, vol. 4: Summary of Sectional Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959. 247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskii institut.

Rech. Ed.: G.M. Shevchuk; Editorial Board: A.A. Abramov, V.O. Brikman, A.M. Gail, P.O. Gerasimov, S.M. Kikotitskiy, (Resp. Ed.) A.O. Ponomarev, V. Polozhkov, K.A. Rybnikov, P.L. Ulyanov, V.A. Uspenskiy, M.O. Chetaev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is given in the first part of the book. The second volume, reference is made to the papers in the first volume, both Soviet and non-Soviet cover various topics in number theory, algebra, differential and integral equations, function theory, functional analysis, probability theory, topology, mathematical problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

Rustowski, E. (Poland). On spaces of sets connected in n -dimensions 200

Silinski, B. (Poland). Certain applications of the concept of an open mapping 200

Jamrowski, Ja. (Poland). Theorems on antipodes 200

Section on Geometry

Blaschke, B. (German Federal Republic). On topological differential geometry 201

Franchetta, G. (Rumania). Partially projective spaces (Eugen Springer) 204

Severi, P. (Italy). The irregularity of algebraic varieties. Topological problems 208

Segre, B. (Italy). Local and general properties of the cor-

Card 32/34

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Punctual transformations with a constant projective connection. In French.
p. 157.

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Uncl.

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(Geometry) (Transformations(Mathematics))
(Spaces, Generalized) (Abelian groups)